

Applicant or Patentee:

Serial or Patent No.: 08/146,504

Filed or Issued: November 1, 1993

For: "SELF-ADDRESSABLE SELF-ASSEMBLING MICROELECTRONIC SYSTEMS AND DEVICES FOR MOLECULAR BIOLOGICAL ANALYSIS AND DIAGNOSTICS"

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERNI hereby declare that I am: HOWARD BIRNDORF

the owner of the small business concern identified below:
 an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: NANOGEN, INC.
ADDRESS OF CONCERN: 15120 El Camino Real
Del Mar, CA 92014

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above-entitled invention, by inventor(s) Michael J. Heller & Eugene Tu described in

the specification filed herewith
 application serial number 08/146,504, filed November 1, 1993
 Patent No. _____, issued _____

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME NANOTRONICS
ADDRESS 3347 Industrial Court, Suite A
San Diego, CA 92121

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent on which this verified statement is directed.

NAME OF PERSON SIGNING:
TITLE OF PERSON OTHER THAN OWNER:
ADDRESS OF PERSON SIGNING:

HOWARD BIRNDORF
President
NANOGEN, INC.
15120 El Camino Real
Del Mar, CA 92014

Signature:  Date: 12-29-93

Applicant or Patentee:
Serial or Patent No.: 08/146,504
Filed or Issued: November 1, 1993
For: "SELF-ADDRESSABLE SELF-ASSEMBLING MICROELECTRONIC SYSTEMS AND DEVICES FOR MOLECULAR BIOLOGICAL ANALYSIS AND DIAGNOSTICS"

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(c)) - SMALL BUSINESS CONCERN

I hereby declare that I am: MICHAEL J. HELLER

the owner of the small business concern identified below:
 an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: NANOTRONICS
ADDRESS OF CONCERN: 3347 Industrial Court, Suite A
San Diego, CA 92121

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above-entitled invention, by inventor(s) Michael J. Heller & Eugene Tu described in

the specification filed herewith
 application serial number 08/146,504, filed November 1, 1993
 Patent No. _____, issued _____

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).
*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME NANOGEN, INC.
ADDRESS 15120 El Camino Real
Del Mar, CA 92014

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

____ INDIVIDUAL SMALL BUSINESS CONCERN ____ NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

____ INDIVIDUAL ____ SMALL BUSINESS CONCERN ____ NONPROFIT ORGANIZATION

NAME _____
ADDRESS _____

____ INDIVIDUAL ____ SMALL BUSINESS CONCERN ____ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent on which this verified statement is directed.

NAME OF PERSON SIGNING: MICHAEL J. HELLER
TITLE OF PERSON OTHER THAN OWNER: Vice President of Research
ADDRESS OF PERSON SIGNING: 3347 Industrial Court, Suite A
San Diego, CA 92121

Signature: Michael J. Heller Date: 12/29/93

As a below named inventor I declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the

**SELF-ADDRESSABLE SELF-ASSEMBLING MICROELECTRONIC SYSTEMS AND
DEVICES FOR MOLECULAR BIOLOGICAL ANALYSIS AND DIAGNOSTICS**

the specification of which

is attached hereto.

XX was filed on November 1, 1993 as Application

Serial No. 08/146,504 and was amended on _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56 (a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
<u>(Number)</u>	<u>(Country)</u>	<u>(Day/Month/Year Filed)</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Day/Month/Year Filed)</u>	<u>Yes</u>	<u>No</u>

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: David B. Murphy, Esq.

REGISTRATION NO. 31,125

Address all telephone calls to DAVID B. MURPHY at telephone no. (714) 751-6606

Address all correspondence to DAVID B. MURPHY, ESQ., LYON & LYON,
611 West Sixth Street, Los Angeles, CA 90017

Kindly recognize as associate attorney: Roland N. Smoot, Reg. No. 18,718; Conrad R. Solum, Jr., Reg. No. 20,467; James W. Gerak, Reg. No. 20,233; Robert H. Taylor, Jr., Reg. No. 19,848; Samuel B. Stone, Reg. No. 19,297; Douglas E. Olson, Reg. No. 22,798; Robert E. Lyon, Reg. No. 24,171; Robert C. Weiss, Reg. No. 24,919; William E. Thomson, Jr., Reg. No. 20,719; Richard E. Lyon, Jr., Reg. No. 26,300; John D. McConaghy, Reg. No. 26,773; William C. Stefan, Reg. No. 26,811; Cec A. Bloomberg, Reg. No. 26,605; J. Donald McCarthy, Reg. No. 25,119; John M. Bassard, Reg. No. 27,433; James H. Shalck, Reg. No. 29,749; Allan W. Jensen, Reg. No. 29,595; Robert W. Dickerson, Reg. No. 29,914; Roy L. Anderson, Reg. No. 30,240; David B. Murphy, Reg. No. 31,125; James C. Brooks, Reg. No. 32,828; Jeffrey H. Olson, Reg. No. 30,790; Steven D. Hommberger, Reg. No. 30,755; Jerold B. Reilly, Reg. No. 32,293; and Stephen L. Biggs, Reg. No. 30,158 of LYON & LYON, 611 West Sixth Street, Los Angeles, California 90017, Telephone (213) 552-8400.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Full name of sole or first inventor Michael J. Heller

Inventor's signature Michael J. Heller Date: 12/28/93

Residence 1614 Hawk View Drive, Encinitas, CA 92024

Citizenship USA

Post Office Address _____

ADDITIONAL INVENTORS

Full name of inventor Eugene Tu

Inventor's signature Eugene Tu Date: 12/28/93

Residence 3643 Mississippi Street, San Diego, CA 92104-4030

Citizenship USA

Post Office Address _____

Full name of inventor _____

Inventor's signature _____ Date: _____

Residence _____

Citizenship _____

Post Office Address _____

Full name of inventor _____

Inventor's signature _____ Date: _____

Residence _____

Citizenship _____

Post Office Address _____

Full name of inventor _____

Inventor's signature _____ Date: _____

Residence _____

Citizenship _____

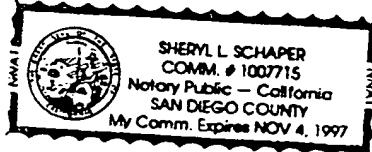
Post Office Address _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
 County of San Diego }

On Mar 14, 1994 before me, Sheryl Schaper - Notary Public
NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"
 personally appeared Eugene Su and Michael J. Heller
NAME(S) OF SIGNER(S)

personally known to me - OR proved to me on the basis of satisfactory evidence
 to be the person(s) whose name(s) is/are
 subscribed to the within instrument and ac-
 knowledged to me that he/she/they executed
 the same in his/her/their authorized
 capacity(ies), and that by his/her/their
 signature(s) on the instrument the person(s),
 or the entity upon behalf of which the
 person(s) acted, executed the instrument.



THIS CERTIFICATE MUST BE ATTACHED TO
 THE DOCUMENT DESCRIBED AT RIGHT:

Though the data requested here is not required by law,
 it could prevent fraudulent reattachment of this form.

OPTIONAL SECTION
CAPACITY CLAIMED BY SIGNER

Though statute does not require the Notary to
 fill in the data below, doing so may prove
 invaluable to persons relying on the document.

- INDIVIDUAL
 CORPORATE OFFICER(S)
TITLE(S)
 PARTNER(S) LIMITED
 GENERAL
 ATTORNEY-IN-FACT
 TRUSTEE(S)
 GUARDIAN/CONSERVATOR
 OTHER: _____

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

OPTIONAL SECTION

TITLE OR TYPE OF DOCUMENT Assignment
 NUMBER OF PAGES 2 DATE OF DOCUMENT 3/14/94

SIGNER(S) OTHER THAN NAMED ABOVE Same

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NOTARIZED
IN THE STATE OF CALIFORNIA

MAR 14 94

[IN WITNESS WHEREOF, I hereto set my hand and seal at San Diego, California]

California this 4th day of March 1994

Eugene Tu
FIRST MIDDLE INITIAL LAST

STATE OF California

COUNTY OF San Diego

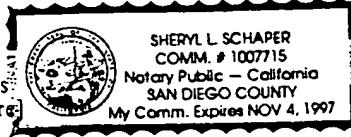
Before me this 4th day of March, 1994, personally appeared

EUGENE TU known to me to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

Sheryl L Schaper

Notary Public

[Notary's Seal Here]



My Commission Expires:

**MY COMMISSION EXPIRES
NOV 4 1997**

[IN WITNESS WHEREOF, I hereto set my hand and seal at]

this day of , 19

L.S.

FIRST MIDDLE INITIAL LAST

STATE OF : ss

COUNTY OF : ss

Before me this day of , 19, personally appeared

known to me to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

Notary Public

My Commission Expires:

[Notary's Seal Here]

[IN WITNESS WHEREOF, I hereto set my hand and seal at]

this day of , 19

L.S.

FIRST MIDDLE INITIAL LAST

STATE OF : ss

COUNTY OF : ss

Before me this day of , 19, personally appeared

known to me to be the person whose name is subscribed to the foregoing Assignment and acknowledged that he executed the same as his free act and deed for the purposes therein contained.

Notary Public

My Commission Expires:

[Notary's Seal Here]

ASSIGNMENT

For valuable consideration, we, Michael J. Heller,
 of Encinitas, CA,
CITY OR TOWN STATE; Eugene Tu,
FIRST MIDDLE INITIAL LAST
 of San Diego, CA,
CITY OR TOWN STATE; FIRST MIDDLE INITIAL LAST
 of,
CITY OR TOWN STATE; and FIRST MIDDLE INITIAL LAST
 of,
CITY OR TOWN STATE; hereby assign to NANOGEN, INC.
 a California
 corporation having a place of business at 15120 El Camino Real,
Del Mar, California 92014.....
 and its successors and assigns (collectively hereinafter called "the Assignee"),
 the entire right, title and interest throughout the world in the inventions and
 improvements which are the subject of an application for United States Patent Serial
 No. 08/146,504, filed on November 1, 1993
Method of Assembling Microelectronic Systems and Devices for Molecular
Biological Analysis and Diagnostics
 this assignment including said application and any and all the United States and
 foreign patents granted for any of said inventions or improvements, and the right
 to claim priority based on the filing date of said application under the International
 Convention for the Protection of Industrial Property, the Patent Cooperation
 Treaty, the European Patent Convention, and all other treaties of like purposes;
 and we authorize the Assignee to apply in all countries in our name or in its own
 name for patents and like rights of exclusion and for inventors' certificates for
 said inventions and improvements; and we agree for ourselves and our respective
 heirs, legal representatives and assigns, without further compensation to perform
 such lawful acts and to sign such further applications, assignments, Preliminary
 Statements and other lawful documents as the Assignee may reasonably request
 to effectuate fully this assignment.

IN WITNESS WHEREOF, I hereto set my hand and seal at San Diego,
California this 4th day of March 1994

Michael J. Heller
 FIRST MIDDLE INITIAL LAST L.S.

STATE OF California: Michael J. Heller
 COUNTY OF San Diego: ss

Before me this 4th day of March, 1994, personally appeared
MICHAEL J. HELLER, known to me to be the person whose name is
 subscribed to the foregoing Assignment and acknowledged that he executed the
 same as his free act and deed for the purposes therein contained.

Sheryl L. Schaper
 Notary Public

My Commission Expires.

[Notary's
 Seal Here]



MY COMMISSION EXPIRES
 NOV 4 1997

203/218